

**OCCUPATIONAL GROUP: Transportation**

**CLASS FAMILY: Bridge Safety**

**CLASS FAMILY DESCRIPTION:**

**This family of positions includes those whose purpose is to conduct safety inspection of bridges by performing structural analyses.**

---

**CLASS TITLE: Bridge Safety Specialist 1**

**DISTINGUISHING CHARACTERISTICS:**

These positions, under direct supervision, perform beginning level bridge safety inspection work. They assist higher level inspectors as a member of a highway bridge safety inspection team, acquiring the knowledge and abilities to perform this work. The work requires strenuous physical labor in rigging scaffolds and ladders to access bridge structures. Hazardous working conditions involve climbing on the superstructures and substructures of bridges and may involve exposure to severe weather conditions. Perform related work as required.

**EXAMPLES OF WORK:** *(Any specific position in this class may not include all of the duties listed; nor do the examples listed cover all of the duties which may be assigned.)*

- Rigs scaffolds and ladders to provide access to bridge structure.
- Chips dirt and scale from bridge members to allow inspection and measurement.
- Works with other inspection team members to obtain dimensions and other details of the bridge.
- Takes routine field notes and makes routine sketches of bridge conditions.
- Takes photographs of bridge deterioration.

**KNOWLEDGE, SKILLS AND ABILITIES:**

- Knowledge of basic safety precautions.
- Ability to follow written and oral instructions.
- Ability to apply basic mathematics.
- Ability to make field notes.
- Ability to make field sketches.
- Ability to climb bridge structures and perform strenuous physical activities.

**MINIMUM QUALIFICATIONS:**

**Education:** Graduation from High School or Equivalent.

**Experience:** No experience required.

**Certifications, Licenses, Registrations:** A valid driver's license may be required.

---

**CLASS TITLE:** Bridge Safety Specialist 2

**DISTINGUISHING CHARACTERISTICS:**

These positions, under general supervision, perform full performance level bridge safety inspection work as a member of a highway bridge safety inspection team. The work requires strenuous physical labor in rigging scaffolds and ladders to access bridge structures. Hazardous working conditions involve climbing on the superstructure and substructure of bridges and may involve exposure to severe weather conditions. Perform related work as required.

**EXAMPLES OF WORK:** *(Any specific position in this class may not include all of the duties listed; nor do the examples listed cover all of the duties which may be assigned.)*

- Obtains data on the dimensions and other details of the bridge.
- Takes soundings to determine scour and other river bed conditions.
- Takes field notes and makes routine sketches of bridge conditions.
- Takes photographs of bridge deterioration.
- Completes standard bridge inventory documents.
- Makes recommendations for the repair of damage to the bridge.
- Writes inspection reports as required.
- Rigs scaffolds and ladders to provide access to bridge structure.
- Chips dirt and scale from bridge members to allow inspection and measurement.

**KNOWLEDGE, SKILLS AND ABILITIES:**

- Knowledge of the manuals and standards of the American Association of State Highway Transportation Officials and the American Institute of Steel Construction applicable to bridge safety inspection.
- Knowledge of federal and state manuals and standards applicable to bridge safety inspection.
- Knowledge of bridge design types.
- Knowledge of safety precautions.
- Ability to interpret plans and specifications.
- Ability to follow written and oral instructions.
- Ability to compute areas and volumes.
- Ability to keep accurate notes and records.
- Ability to make detailed sketches.
- Ability to complete standard forms and inventories.
- Ability to climb bridge structures and perform strenuous physical activities.

**MINIMUM QUALIFICATIONS:**

**Education:** Graduation from High School or Equivalent.

**Experience:** Two to four years of full-time or equivalent part-time verifiable experience related to bridge safety inspection.

**Education and/or Experience Substitution:** Coursework from an ABET accredited college or university may substitute for the required experience on a year for year basis.

**Certifications, Licenses, Registrations:** A valid driver's license may be required. Successful completion of a training course based on the Federal Highway Administration's 'Bridge Inspector's Training Manual' is required.

---

**CLASS TITLE:** Bridge Safety Specialist 3

**DISTINGUISHING CHARACTERISTICS:**

These positions, under limited supervision, perform advanced level bridge safety inspection work as a member of a highway bridge safety inspection team. They may train lower level bridge inspectors. The work requires strenuous physical labor in rigging scaffolds and ladders to access bridge structures. Hazardous working conditions involve climbing on the superstructure and substructure of bridges and may involve exposure to severe weather conditions. Perform related work as required.

**EXAMPLES OF WORK:** *(Any specific position in this class may not include all of the duties listed; nor do the examples listed cover all of the duties which may be assigned.)*

- Plans, assigns, monitors, and evaluates the work of members of the bridge safety inspection team.
- Obtains data on the dimensions and other details of the bridge.
- Determines the conditions and amount of reduction of bridge members.
- Takes soundings to determine scour and other river bed conditions.
- Takes field notes and makes routine sketches of bridge conditions.
- Takes photographs of bridge deterioration.
- Makes recommendations for the repair of damage to the bridge.
- Compiles and writes the inspection report.
- Rigs scaffolds and ladders to provide access to bridge structure.
- Chips dirt and scale from bridge members to allow inspection and measurement.

**KNOWLEDGE, SKILLS AND ABILITIES:**

- Knowledge of the manuals and standards of the American Association of State Highway Transportation Officials and the American Institute of Steel Construction applicable to bridge safety inspection.
- Knowledge of federal and state manuals and standards applicable to bridge safety inspection.
- Knowledge of bridge design and construction principles.
- Knowledge of safety precautions.
- Ability to effectively lead the work of others.
- Ability to interpret plans and specifications.
- Ability to compute areas and volumes.
- Ability to keep accurate notes and records.
- Ability to make detailed sketches.

- Ability to complete standard forms and inventories.
- Ability to write narrative technical reports.
- Ability to climb bridge structures and perform strenuous physical activities.

## **MINIMUM QUALIFICATIONS:**

**Education:** Graduation from High School or Equivalent.

**Experience:** Four to six years of full-time or equivalent part-time verifiable experience related to bridge safety inspection.

**Education and/or Experience Substitution:** Coursework from an ABET accredited college or university may substitute for the required experience on a year for year basis.

**Certifications, Licenses, Registrations:** A valid driver's license may be required. Successful completion of a training course based on the Federal Highway Administration's 'Bridge Inspector's Training Manual' and a satisfactory score on the Division of Highways 'Bridge Inspector's Certification Test' are required.

---

**CLASS TITLE:** Bridge Safety Specialist 4

## **DISTINGUISHING CHARACTERISTICS:**

These positions, under limited supervision, perform advanced level bridge safety inspection work as a member of a highway bridge safety inspection team. They are assigned advanced responsibilities for planning and executing bridge inspections, analysis of inspection findings and supervision of inspection team members. The work requires strenuous physical labor in rigging scaffolds and ladders to access bridge structures. The hazardous working conditions involve climbing on the superstructure and substructure of bridges and work may involve exposure to severe weather conditions. Perform related work as required.

**EXAMPLES OF WORK:** *(Any specific position in this class may not include all of the duties listed; nor do the examples listed cover all of the duties which may be assigned.)*

- Plans and schedules the work of bridge safety inspection teams within a district.
- Supervises the work performed through the bridge safety inspection team leaders.
- Reviews and edits draft inspection reports completed by inspectors for accuracy, completeness, and conformance to established guidelines.
- Performs preliminary technical analysis such as stress analysis.
- Reviews the quality of completed inspection work by comparing reported data with actual structural condition.
- Writes periodic progress reports on the bridge safety inspection program within a district as required.

## **KNOWLEDGE, SKILLS AND ABILITIES:**

- Extensive knowledge of the manuals and standards of the American Association of State Highway Transportation Officials and the American Institute of Steel Construction applicable to bridge safety inspection.
- In-depth knowledge of federal and state manuals and standards applicable to bridge safety inspection.
- Extensive knowledge of bridge design and construction principles and bridge mechanics.
- Knowledge of safety precautions.
- Ability to effectively supervise the work of others.
- Ability to interpret plans and specifications.
- Ability to perform stress analysis.
- Ability to compute areas and volumes.
- Ability to keep accurate notes and records.
- Ability to make detailed sketches.
- Ability to complete standard forms and inventories.
- Ability to write narrative technical reports.
- Ability to climb bridge structures and perform strenuous physical activities.

**MINIMUM QUALIFICATIONS:**

**Education:** Graduation from High School or Equivalent.

**Experience:** Eight to ten years of full-time or equivalent part-time verifiable experience related to bridge safety inspection.

**Education and/or Experience Substitution:** Coursework from an ABET accredited college or university may substitute for the required experience on a year for year basis.

**Certifications, Licenses, Registrations:** A valid driver's license may be required. Successful completion of a training course based on the Federal Highway Administration's 'Bridge Inspector's Training Manual' and a satisfactory score on the Division of Highways 'Bridge Inspector's Certification Test' are required.